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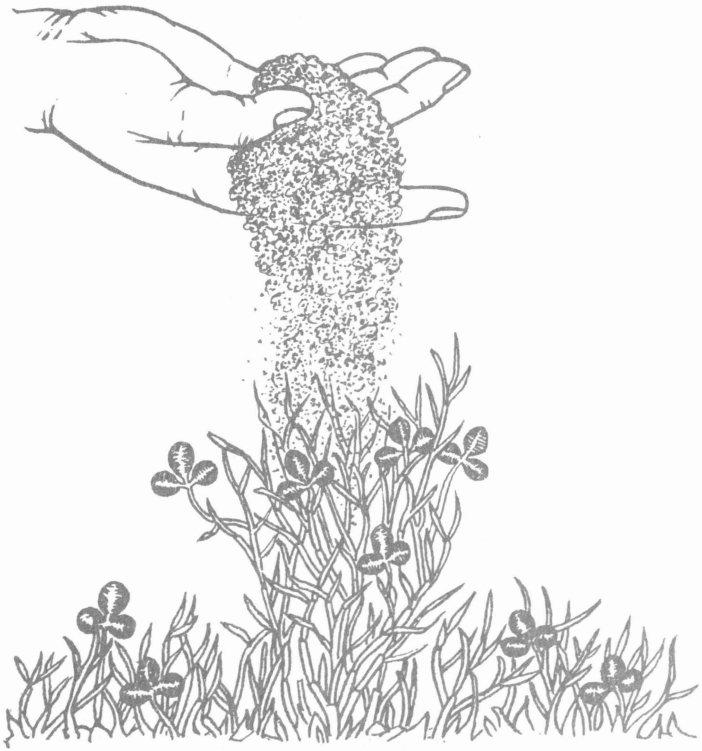
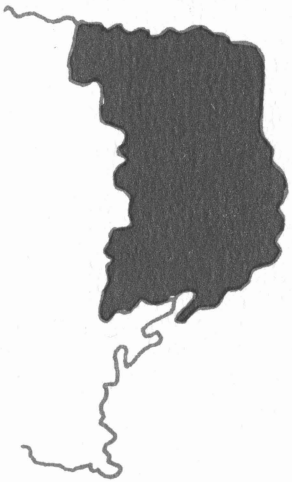
FORAGE PROFITS WITH LIME



TEXAS A&M UNIVERSITY
TEXAS AGRICULTURAL EXTENSION SERVICE

FORAGE PROFITS WITH LIME

J. NEAL PRATT, Extension Agronomist
CARL GRAY, Extension Soil Chemist
C. D. WELCH, Extension Soil Chemist
ALBERT C. NOVOSAD, Extension Pasture Specialist
GEORGE D. ALSTON, Extension Area Agronomist
Texas A&M University



THE NEED FOR LIME

Four million acres of pasture soils in Texas need *LIME*, according to a recent summary of thousands of soil samples. Forage growth and quality and profits are restricted on these acres that need *LIME.* Potential forage production is tremendous in the area as shown on the map. The high rates of nitrogen improve forage growth, production and profits; but nitrogen causes acid conditions in soils. Legumes also improve forage quality and profits, and need *LIME* for maximum growth.

WHY USE LIME?

to increase forage growth

to improve forage quality

to make phosphorus more available

to reduce concentration of toxic elements—like manganese, and aluminum

to supply calcium and magnesium—essential nutrients for forage

to improve drouth tolerance

to enhance legume growth

to grow healthier cattle

. . . . in short, use LIME to

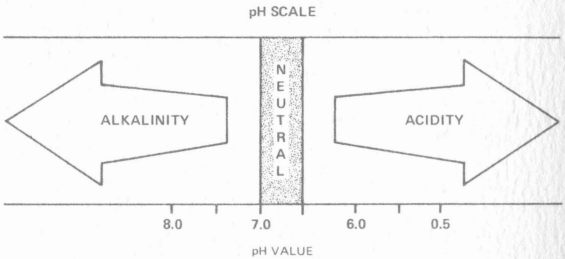
MAKE MORE MONEY

High-quality clover-grass pastures on Limed soils. Clovers provide high-quality forage and improve calving percentage, increase weaning weights and mean more profits from Better Forage.

WHAT IS SOIL ACIDITY?

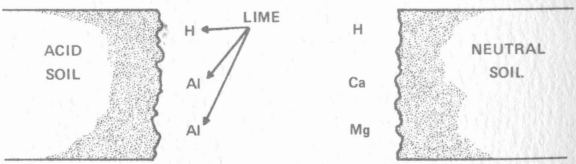
Soils have elements which are *Acid,* such as hydrogen and aluminum. Soils also have chemicals which are basic—such as calcium, magnesium, potassium and sodium. When the *Acid* chemicals outnumber the basic chemicals, the soil is called *"Acid".*

Soil acidity is caused by: (1) removal of bases (mainly Ca, Mg) by growing forage plants; (2) weathering of soil minerals; (3) leaching of bases and (4) ammonium nitrogen fertilizers. Soil pH is an expression of the chemical reactions of soil; pH 7.0 is neutral; less than 7 is acid; and above 7 is basic. More than 50% of the acreage shown on the map has a pH of 6.5 or lower and *Needs Lime. Only one of ten acres is currently receiving sufficient lime.*



LIME NEUTRALIZES ACIDITY

When sufficient *Lime* is added to acid soils, the acid is neutralized. This permits *Better Forage* growth, *Better Use* of fertilizer and *More Profits* . . . as shown in Table 1 for Coastal bermudagrass.

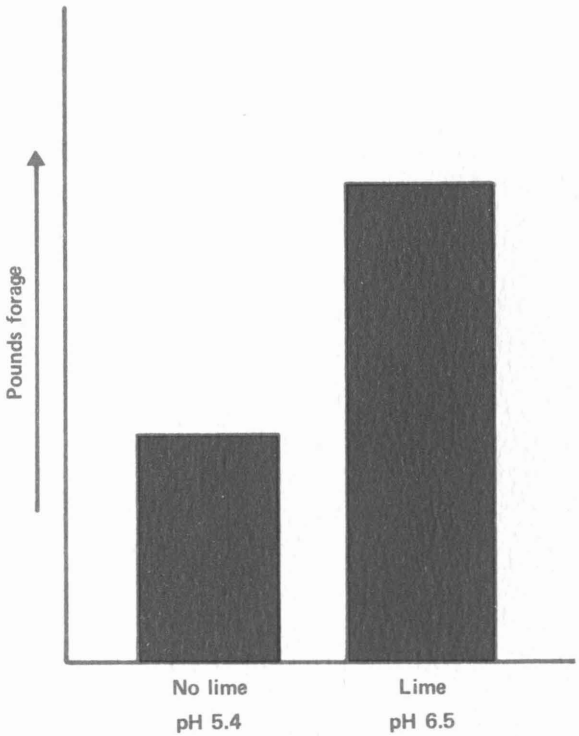


Lime is important to grow legumes satisfactorily. Growth of bacteria which "fix" atmospheric nitrogen is improved when *Lime* is applied to acid soils.

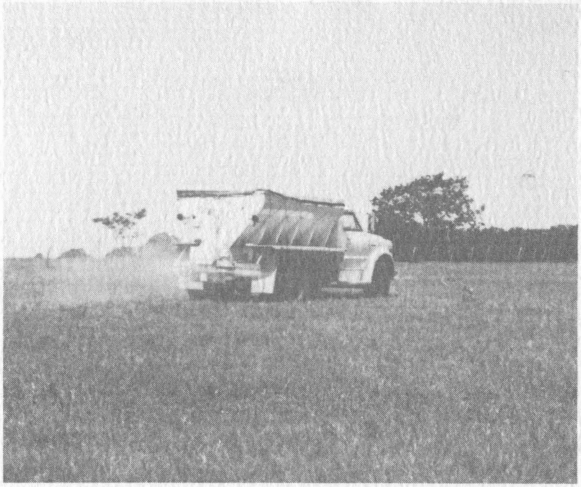
HOW MUCH TO APPLY

This depends on soil pH, cropping systems, soil texture, and other factors. The following table shows amounts recommended. *Lime* is more effective if thoroughly mixed with topsoil.

pH level		Rates in tons per acre		
Legumes	Grass	Sands	Sandy loams & loams	Clays and clay loams
6.0-6.4	5.8-6.2	½	1	1½
5.6-5.9	5.4-5.7	1	1½	2
5.0-5.5	5.0-5.3	2	3	4



LIME is needed on acid soils to grow high-quality clover-grass pastures. LIME reduces the effect of toxic elements, and improves fertilizer efficiencies for grass pastures, also.



Lime can be applied any time of the year to correct soil acidity and grow BETTER FORAGE for BIGGER PROFITS.

TEST YOUR SOIL

Do this to find out how much *Lime* is needed. Then apply the amount recommended. *Lime* can be applied *Any Time.* No need to wait—the sooner the better.

Appreciation is expressed to Wayne D. Taylor and James T. Long, Extension economists-management, for economic analyses.

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